

=====

Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866)
217-9197 (toll free).

Reviewer: Durreshwar Anjum

Timestamp: [year=2007; month=12; day=6; hr=11; min=6; sec=38; ms=833;]

=====

Application No: 10500660 Version No: 1.0

Input Set:

Output Set:

Started: 2007-11-16 19:09:58.433
Finished: 2007-11-16 19:09:58.960
Elapsed: 0 hr(s) 0 min(s) 0 sec(s) 527 ms
Total Warnings: 7
Total Errors: 0
No. of SeqIDs Defined: 11
Actual SeqID Count: 11

| Error code | Error Description |
|------------|--|
| W 213 | Artificial or Unknown found in <213> in SEQ ID (1) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (2) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (3) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (4) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (5) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (6) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (7) |

SEQUENCE LISTING

<110> Genencor International, Inc.

<120> OXA1P Enhanced Protein Secretion

<130> GC715-2-PCT

<140> 10500660

<141> 2007-11-16

<150> PCT/US02/39634

<151> 2002-12-12

<150> US 60/348,080

<151> 2002-01-09

<160> 11

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 1

gagaattcga cgggagataa ctacgggc

28

<210> 2

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 2

atggatccta tgctctgaaa tcgcctggg

29

<210> 3

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 3

tgaagcttgc cgggctgttt cacgg

25

<210> 4

<211> 32
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> primer

 <400> 4
 atggatccat cgtcatac acaggaaga tg 32

 <210> 5
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> primer

 <400> 5
 gctttggatt tcttttgccg tctc 24

 <210> 6
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> primer

 <400> 6
 ggttcgtgag cataaaggga agc 23

 <210> 7
 <211> 42
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> primer

 <400> 7
 ggaattctag agtgtaaaga ttaattatag gaggaatgt tg 42

 <210> 8
 <211> 261
 <212> PRT
 <213> Bacillus subtilis

 <400> 8
 Met Leu Leu Lys Arg Arg Ile Gly Leu Leu Leu Ser Met Val Gly Val
 1 5 10 15
 Phe Met Leu Leu Ala Gly Cys Ser Ser Val Lys Glu Pro Ile Thr Ala
 20 25 30
 Asp Ser Pro His Phe Trp Asp Lys Tyr Val Val Tyr Pro Leu Ser Glu
 35 40 45
 Leu Ile Thr Tyr Val Ala Lys Leu Thr Gly Asp Asn Tyr Gly Leu Ser
 50 55 60

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Ile | Leu | Val | Thr | Ile | Leu | Ile | Arg | Leu | Leu | Ile | Leu | Pro | Leu | Met |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Ile | Lys | Gln | Leu | Arg | Ser | Ser | Lys | Ala | Met | Gln | Ala | Leu | Gln | Pro | Glu |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Met | Gln | Lys | Leu | Lys | Glu | Lys | Tyr | Ser | Ser | Lys | Asp | Gln | Lys | Thr | Gln |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Gln | Lys | Leu | Gln | Gln | Glu | Thr | Met | Ala | Leu | Phe | Gln | Lys | His | Gly | Val |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Asn | Pro | Leu | Ala | Gly | Cys | Phe | Pro | Ile | Leu | Ile | Gln | Met | Pro | Ile | Leu |
| | | 130 | | | | | 135 | | | | | 140 | | | |
| Ile | Gly | Phe | Tyr | His | Ala | Ile | Met | Arg | Thr | Gln | Ala | Ile | Ser | Glu | His |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Ser | Phe | Leu | Trp | Phe | Asp | Leu | Gly | Glu | Lys | Asp | Pro | Tyr | Tyr | Ile | Leu |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Pro | Ile | Val | Ala | Gly | Val | Ala | Thr | Phe | Val | Gln | Gln | Lys | Leu | Met | Met |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Ala | Gly | Asn | Ala | Gln | Gln | Asn | Pro | Gln | Met | Ala | Met | Met | Leu | Trp | Ile |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Met | Pro | Ile | Met | Ile | Ile | Val | Phe | Ala | Ile | Asn | Phe | Pro | Ala | Ala | Leu |
| | | 210 | | | | | 215 | | | | 220 | | | | |
| Ser | Leu | Tyr | Trp | Val | Val | Gly | Asn | Leu | Phe | Met | Ile | Ala | Gln | Thr | Phe |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Leu | Ile | Lys | Gly | Pro | Asp | Ile | Lys | Lys | Asn | Pro | Glu | Pro | Gln | Lys | Ala |
| | | | 245 | | | | | | 250 | | | | 255 | | |
| Gly | Gly | Lys | Lys | Lys | | | | | | | | | | | |
| | | | 260 | | | | | | | | | | | | |

<210> 9

<211> 275

<212> PRT

<213> Bacillus subtilis

<400> 9

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Lys | Thr | Tyr | Gln | Lys | Leu | Leu | Ala | Met | Gly | Ile | Phe | Leu | Ile |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Leu | Cys | Ser | Gly | Asn | Ala | Ala | Phe | Ala | Ala | Thr | Asn | Gln | Val | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gly | Leu | Ser | Asn | Val | Gly | Phe | Phe | His | Asp | Tyr | Leu | Ile | Glu | Pro | Phe |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Ser | Ala | Leu | Leu | Lys | Gly | Val | Ala | Gly | Leu | Phe | His | Gly | Glu | Tyr | Gly |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Leu | Ser | Ile | Ile | Leu | Val | Thr | Ile | Ile | Val | Arg | Ile | Val | Val | Leu | Pro |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Leu | Phe | Val | Asn | Gln | Phe | Lys | Lys | Gln | Arg | Ile | Phe | Gln | Glu | Lys | Met |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Ala | Val | Ile | Lys | Pro | Gln | Val | Asp | Ser | Ile | Gln | Val | Lys | Leu | Lys | Lys |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Thr | Lys | Asp | Pro | Glu | Lys | Gln | Lys | Glu | Leu | Gln | Met | Glu | Met | Met | Lys |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Leu | Tyr | Gln | Glu | His | Asn | Ile | Asn | Pro | Leu | Ala | Met | Gly | Cys | Leu | Pro |
| | | 130 | | | | | 135 | | | | 140 | | | | |
| Met | Leu | Ile | Gln | Ser | Pro | Ile | Met | Ile | Gly | Leu | Tyr | Tyr | Ala | Ile | Arg |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Ser | Thr | Pro | Glu | Ile | Ala | Ser | His | Ser | Phe | Leu | Trp | Phe | Ser | Leu | Gly |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Gln | Ser | Asp | Ile | Leu | Met | Ser | Leu | Ser | Ala | Gly | Ile | Met | Tyr | Phe | Val |
| | | 180 | | | | | | | 185 | | | | 190 | | |

Gln Ala Tyr Ile Ala Gln Lys Leu Ser Ala Lys Tyr Ser Ala Val Pro
 195 200 205
 Gln Asn Pro Ala Ala Gln Gln Ser Ala Lys Leu Met Val Phe Ile Phe
 210 215 220
 Pro Val Met Met Thr Ile Phe Ser Leu Asn Val Pro Ala Ala Leu Pro
 225 230 235 240
 Leu Tyr Trp Phe Thr Ser Gly Leu Phe Leu Thr Val Gln Asn Ile Val
 245 250 255
 Leu Gln Met Thr His His Lys Ser Lys Lys Thr Ala Ala Leu Thr Glu
 260 265 270
 Ser Val Lys
 275

<210> 10
 <211> 177
 <212> PRT
 <213> Escherichia coli

<400> 10
 Trp Gly Phe Ser Ile Ile Ile Ile Thr Phe Ile Val Arg Gly Ile Met
 1 5 10 15
 Tyr Pro Leu Thr Lys Ala Gln Tyr Thr Ser Met Ala Lys Met Arg Met
 20 25 30
 Leu Gln Pro Lys Ile Gln Ala Met Arg Glu Arg Leu Gly Asp Asp Lys
 35 40 45
 Gln Arg Ile Ser Gln Glu Met Met Ala Leu Tyr Lys Ala Glu Lys Val
 50 55 60
 Asn Pro Leu Gly Gly Cys Phe Pro Leu Leu Ile Gln Met Pro Ile Phe
 65 70 75 80
 Leu Ala Leu Tyr Tyr Met Leu Met Gly Ser Val Glu Leu Arg Gln Ala
 85 90 95
 Pro Phe Ala Leu Trp Ile His Asp Leu Ser Ala Gln Asp Pro Tyr Tyr
 100 105 110
 Ile Leu Pro Ile Leu Met Gly Val Thr Met Phe Phe Ile Gln Lys Met
 115 120 125
 Ser Pro Thr Thr Val Thr Asp Pro Met Gln Gln Lys Ile Met Thr Phe
 130 135 140
 Met Pro Val Ile Phe Thr Val Phe Phe Leu Trp Glu Pro Ser Gly Leu
 145 150 155 160
 Val Leu Tyr Tyr Ile Val Ser Asn Leu Val Thr Ile Ile Gln Gln Gln
 165 170 175
 Leu

<210> 11
 <211> 188
 <212> PRT
 <213> Saccharomyces cerevisiae

<400> 11
 Trp Trp Gly Thr Ile Ala Ala Thr Thr Ile Leu Ile Arg Cys Leu Met
 1 5 10 15
 Phe Pro Leu Tyr Val Lys Ser Ser Asp Thr Val Ala Arg Asn Ser His
 20 25 30
 Ile Lys Pro Glu Leu Asp Ala Leu Asn Asn Lys Leu Met Ser Thr Thr
 35 40 45
 Asp Leu Gln Gln Gly Gln Leu Val Ala Met Gln Arg Lys Lys Leu Leu

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | 50 | | | | 55 | | | | 60 | | | | | | | |
| Ser | Ser | His | Gly | Ile | Lys | Asn | Arg | Trp | Leu | Ala | Ala | Pro | Met | Leu | Gln | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | |
| Ile | Pro | Ile | Ala | Leu | Gly | Phe | Phe | Asn | Ala | Leu | Arg | His | Met | Ala | Asn | |
| | | | | 85 | | | | | 90 | | | | | 95 | | |
| Tyr | Pro | Val | Asp | Gly | Phe | Ala | Asn | Gln | Gly | Val | Ala | Trp | Phe | Thr | Asp | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Leu | Thr | Gln | Ala | Asp | Pro | Tyr | Leu | Gly | Leu | Gln | Val | Ile | Thr | Ala | Ala | |
| | | 115 | | | | | 120 | | | | 125 | | | | | |
| Val | Phe | Ile | Ser | Phe | Thr | Arg | Leu | Gly | Gly | Glu | Thr | Gly | Ala | Gln | Gln | |
| | 130 | | | | | 135 | | | | 140 | | | | | | |
| Phe | Ser | Ser | Pro | Met | Lys | Arg | Leu | Phe | Thr | Ile | Leu | Pro | Ile | Ile | Ser | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | |
| Ile | Pro | Ala | Thr | Met | Asn | Leu | Ser | Ser | Ala | Val | Val | Leu | Tyr | Phe | Ala | |
| | | | | 165 | | | | | 170 | | | | | 175 | | |
| Phe | Asn | Gly | Ala | Phe | Ser | Val | Leu | Gln | Thr | Met | Ile | | | | | |
| | | 180 | | | | | | 185 | | | | | | | | |